

**AMENDMENTS TO THE CLAIMS**

The following listing of claims replaces all previous claim listings.

Listing of claims:

1. **(previously presented)**: A radiation image sensing apparatus for sensing a radiation by a sensing unit and outputting an electric signal corresponding to the sensed radiation, wherein said sensing unit comprising:

a substrate;

a conversion section arranged on said substrate and, configured to have a first semiconductor conversion element for converting the radiation into an electrical signal and a switch element connected to the first semiconductor conversion element, for switching the electrical signal; and

a second semiconductor conversion element arranged on said substrate, configured to convert the radiation into an electrical signal for detecting a dose of the radiation incident on said conversion section,

wherein each of the first semiconductor conversion element and the second semiconductor conversion element has a semiconductor layer which has originally been formed on a common layer on the substrate, and

wherein said second semiconductor conversion element has a structure of a field effect transistor.

2. **(previously presented)**: The apparatus according to claim 1, characterized in that said switch element has a semiconductor layer thinner than said semiconductor layers of said first and second semiconductor conversion elements.

3. **(canceled)**

4. **(canceled)**

5. **(canceled)**

6. **(original)**: The apparatus according to claim 1, characterized by further comprising a wavelength conversion member which is arranged above said first and second semiconductor conversion elements to convert a wavelength of the radiation that becomes incident.

7. **(original)**: The apparatus according to claim 1, characterized in that said first and second semiconductor conversion elements are stacked above said switch element.

8. **(previously amended)**: The apparatus according to claim 1, characterized by further comprising a bias line which is connected to a first electrode arranged for said first semiconductor conversion element.

9. **(original)**: The apparatus according to claim 1, characterized in that said switch element comprises a thin film transistor.

10. **(original)**: The apparatus according to claim 1, characterized in that said second semiconductor conversion element detects the total dose of the radiation.

11. **(previously presented)**: The apparatus according to claim 8, characterized in that

said first semiconductor conversion element and said switch element are arranged in a matrix on said substrate,

the first electrode is connected to one of a plurality of bias lines arranged in parallel, and

a second electrode is connected to the bias line to which the first electrode of said first semiconductor conversion element adjacent to said second semiconductor conversion element is connected.

12. **(previously presented)**: A radiation image sensing apparatus for sensing a radiation by a sensing unit and outputting an electric signal corresponding to the sensed radiation, wherein said sensing unit comprising:

a substrate;

a conversion section arranged on said substrate and, configured to have a first semiconductor conversion element for converting the radiation into an electrical signal and a switch element connected to the first semiconductor conversion element, for switching the electrical signal; and

a second semiconductor conversion element arranged on said substrate, configured to convert the radiation into an electrical signal for detecting a dose of the radiation incident on said conversion section,

wherein:

each of the first semiconductor conversion element and the second semiconductor conversion element has a semiconductor layer which has originally been formed on a common layer on the substrate,

there exist a first pixel which includes said first semiconductor conversion element and said second semiconductor conversion element

and a second pixel which includes said first semiconductor conversion element and no second semiconductor conversion element,  
an area of the first pixel is substantially equal to that of the second pixel, and  
a light-receiving area of said first semiconductor conversion element in the first pixel is smaller than that of said first semiconductor conversion element in the second pixel.

13. **(original)**: The apparatus according to claim 12, characterized in that  
a plurality of said second semiconductor conversion elements are placed in said conversion section, and  
when an array of the first and second pixels which are arranged in a direction in which the bias line runs is defined as a row, and an array of the first and second pixels which are arranged in a direction perpendicular to the row is defined as a column, at least some of said plurality of second semiconductor conversion elements are formed in a plurality of second pixels which constitutes the same row or column.

14. **(previously presented)**: The apparatus according to claim 8, characterized in that said second semiconductor conversion element has a structure of a field effect transistor which uses a second electrode as one of source and drain electrodes.

15. **(original)**: The apparatus according to claim 14, characterized in that at least one electrode selected from the group consisting of the other of the source and drain electrode of said second semiconductor conversion element and a control electrode is connected between a plurality of second pixels.

16. **(canceled)**

17. **(canceled)**

18. **(original)**: The apparatus according to claim 8, characterized in that the second electrode has a transparent electrode film which comes into contact with the bias line.

19. **(original)** The apparatus according to claim 8, characterized in that said second semiconductor conversion element has an ohmic contact layer which comes into contact with the bias line as the second electrode.

20. **(canceled)**

21. **(original)**: The apparatus according to claim 8, characterized in that the first electrode has a transparent electrode film which comes into contact with the bias line.

22. **(original)**: The apparatus according to claim 8, characterized in that said first semiconductor conversion element has an ohmic contact layer which comes into contact with the bias line as the first electrode.

23. **(canceled)**

24. **(canceled)**

25. **(canceled)**

26. **(canceled)**

27. **(canceled)**

28. **(canceled)**

29. **(canceled)**

30. **(canceled)**

31. **(previously presented)**: The apparatus according to claim 12, characterized in that said first and second semiconductor conversion elements are arranged over said switch element.

32. **(canceled)**